DOCUMENT RESUME

ED 328 993 EA 022 704

| | |
|---|---|
| TITLE | Research-Based School Improvement Practices. |
| INSTITUTION | Connecticut State Dept. of Education, Hartford. |
| PUB DATE | 84 |
| NOTE | 47p.; Light print will not reproduce adequately in paper copy. |
| PUB TYPE | Guides - Non-Classroom Use (055) |
| EDRS PRICE | MF01/PC02 Plus Postage. |
| DESCRIPTORS | *Educational Improvement; Educational Quality; *Effective Schools Research; Elementary Secondary Education; *Excellence in Education; Outcomes of Education |
| IDENTIFIERS | *Connecticut |

ABSTRACT

Research-based school improvement practices are examined in this brochure, which is designed to highlight school effectiveness findings of the past decade, stimulate examination of research-based practices in individual schools, and encourage educational cooperation. Twelve sections discuss school improvement strategies at the district, school, and classroom levels in the following areas: managing academic learning time; improving the learning environment; clarifying the school mission; improving instructional practices; understanding learning styles; establishing high expectations; the principal as instructional leader; teacher evaluation; student evaluation; capitalizing on financial and human resources; developing collegiality; and building citizen advocacy. (58 references) (LMI)

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# Research-Based School Improvement Practices

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# Research-Based School Improvement Practices

The principal author of *Research-Based School Improvement Practices* is Joan Shoemaker. For additional copies of the publication, write the State Department of Education, Public Information Office, P.O. Box 2219, Hartford, CT 06145 or telephone (203) 566-5497.

Cost per copy for ten or more copies outside the Department's distribution area: 95 cents plus shipping charges.

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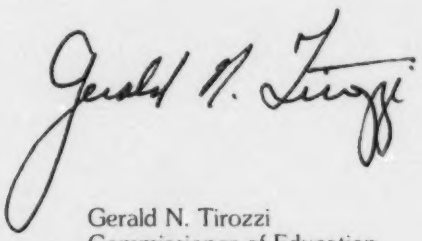
# Foreword

One of the reasons that those of us in education find this a challenging time, full of opportunity, is that we now *know* a great deal about how students learn and about how schools can improve. We have accumulated a knowledge base over the past decade, testing a number of learning theories and determining what works. Now we are able to translate the research findings into action.

Providing information on the best approaches to learning and suggestions for putting them into practice is one of many forms of technical assistance which the State Department of Education provides to local school districts. We believe that the concepts which are summarized in *Research-Based School Improvement Practices* are vital elements of an effective educational program. We hope that educators and all those interested in education will find them useful.



Gerald N. Tirozzi
Commissioner of Education

## What Works In Schooling?

*A major revolution has taken place during the past decade in educational research and our understanding of some of the factors that directly influence learning in or out of the schools. As a result, student learning can now be improved greatly and it is possible to describe the favorable learning conditions that can enable virtually all students to learn to a high standard.*

Benjamin S. Bloom

The research of the 1970s and 1980s on the effects of schooling and on the effects of instruction does not offer a "quick fix" or easy solution to the complex problems of elementary and secondary education. There is, however, accumulating evidence about what works in schools, from case studies and from descriptive, experimental and evaluation research on teaching. Alterable variables, conditions over which teachers and principals have control, have been identified which can make a difference in what, how much, and how well all students can learn. The pessimism inherent in the statement that "schools bring little influence to bear upon a child's achievement that is independent of his background and general social context" (Coleman, et al, 1966) is considered now to be basically indefensible.

This brochure has three purposes:

- To highlight the educational research findings of the past decade which have implications for more effective school practices to improve learning, teaching and leadership;
- To stimulate boards of education, superintendents, principals and teachers to examine the status of research-based practices in their schools;

- To encourage local school districts to put the research into practice by working cooperatively with other educational agencies including other Connecticut school districts, regional educational service centers, the State Department of Education, colleges and universities and regional and national labs and centers.

The brochure contains twelve sections and a bibliography. The quotations preceding each section were selected because they express an organizing theme for each of the sections they represent. The content of each section, however, was gleaned from the many sources cited in the bibliography.

Since some very specific practices and policies for school improvement are identified in this brochure, a note of caution is in order. School improvement is complex; it takes time and hard work. There are no guarantees. No one set of activities automatically will turn a lower achieving school into a higher achieving one. The substantial and growing research base can suggest only which practices and policies are more likely to help schools improve. In the final analysis, school improvement is dependent upon the encouragement, support and resources of boards of education and the communities they serve, and the knowledge, understanding, openness to change and abilities of administrators and teachers.

# Academic Learning Time

*The finding that academic learning time correlates with achievement test scores is of interest not only because it reminds us that time is important in learning, but because it gives us hope that we may soon have a measure of ongoing learning available for everyday use by teachers in the classroom.*

Carolyn Denham

Teachers need time to teach and students need time to learn. Therefore, it is not surprising that researchers have found a positive relationship between achievement and active learning time. However, the concept of time extends far beyond the general quantitative notion of 180 school days and 900 instructional hours. Academic learning time is the amount of time a student spends engaged in academic tasks of appropriate difficulty with a high rate of success.

## Time Allocation

The length of the school year and the length of the school day define the maximum amount of time available for instruction. Since allocated time is a relatively fixed or stable variable, it must be guarded and preserved for only the most productive use.

Making the most of allocated time for instruction depends upon:

- A schedule which allows the maximum number of minutes each day for academic instruction;
- Teachers and principals who hold fast to that schedule;
- Classes which begin and end on time;
- The avoidance of loud speaker announcements and other interruptions during instructional time;
- The reduction of time allotted between classes, and
- Efficient management of attendance, collection of money and other noninstructional activities.

### Time-on-task

Within the allocated time for instruction, teachers decide how the time will be used. Teachers' decisions directly influence the time students are engaged in learning. Time-on-task is determined largely by the quality of instruction and the extent to which students have the prerequisite skills for each new learning task. In other words, students cannot actively engage in learning if the instruction is poor and/or they are unable to comprehend what is being taught and what they are to do.

Teachers can increase the amount of time-on-task for students by:

- Developing and implementing a workable set of classroom rules and behaviors;
- Communicating a system of student responsibility and accountability which is perceived as fair and clear;
- Applying diagnostic and assessment procedures to determine the extent to which students possess the knowledge and skills necessary to learn a set of objectives as well as the ways in which students learn best;
- Helping students get ready to learn by specifying and repeating objectives;
- Providing students with plenty of opportunity for both guided and independent practice;
- Engaging in frequent and timely use of student encouragement, reinforcement and feedback, and
- Assigning, correcting and grading homework of appropriate difficulty, and returning homework assignments to students in a timely manner.

### Learning time

Academic learning time implies successful learning tasks which are neither too difficult nor too easy. Teachers can help all students to achieve a high rate of success by:

- Teaching to the whole class initially, but using small group and individual instruction as needs develop for enrichment, extension or remediation;
- Providing for teacher/student interaction opportunities during the entire class lesson;

- Reteaching lesson content until students show they have learned it, and

- Using regular reviews of key concepts and skills throughout the year to check on student retention.

Lengthening the school day or year, though significant, is not a sufficient condition in and of itself to increase student learning. The necessary accompaniments are effectively managing the use of time and improving the quality of instruction.

**IN YOUR DISTRICT**

Is the importance of academic learning time receiving sufficient attention?

**IN YOUR SCHOOL**

Are there procedures to systematically monitor and evaluate academic learning time?

**IN YOUR CLASSROOM**

Are students on productive assignments most of the time?

## Learning Environment

*We should get on with the business of creating classroom environments and school learning climates that promote high achievement.*

Wilbur Brookover

A school's learning environment is a collection of attitudes, beliefs and behaviors within a building. Environment, also, is a collection of school policies, practices, expectations, norms and rewards. This second collection, created by staff, students and parents, not only provides the conditions for effective learning but also defines the dimensions of the academic learning environment of a school.

Research has shown that school policies — written documents shared with students and parents which say clearly and emphatically what policies are and how they are to be implemented — can make the difference between more productive and less productive school learning environments.

School policies should communicate these beliefs:

- All students are expected to learn. Expectations are clearly defined for all students.
- All students are expected to behave. A written code of conduct specifies acceptable behavior, outlines consequences for unacceptable behavior, and specifies procedures which are routine and quick to administer.
- All students are expected to read, write and compute. These skills form the foundation necessary to learn all other concepts and skills.
- Instructional time must be protected. Standard procedures, known to students, staff and parents, are outlined to prevent disruptions.
- Homework expands academic learning time for students. Expectations are clearly defined and assignments are graded and returned promptly.

- Student performance, in conjunction with instructional objectives, is monitored, assessed and reported frequently and systematically. Grading and reporting procedures are standardized across all classrooms.

- Retention and promotion practices are based upon clearly defined expectations for mastery of instructional objectives and clearly defined and reliable assessment procedures. Procedures are standardized across all classrooms.

- There are incentives and rewards for students and teachers. Students are rewarded for excellence in achievement and behavior. Teachers are rewarded for excellence in teaching. There are objective, explicit criteria and standards for rewards.

- Parents are involved in the instructional programs. There are standards, procedures and various options for parental involvement in schooling.

The presence of written policies is necessary but, of course, not sufficient. For policies to contribute to school improvement, they must be fully implemented, continuously monitored, frequently evaluated, periodically updated, and communicated clearly to students and parents.

School environments for learning are more likely to improve where policies define and guide everyday practices and procedures.

**IN YOUR DISTRICT**

How well do policies frame and influence school environments that promote higher achievement?

**IN YOUR SCHOOL**

Are policies conspicuous, easy to administer and consistent with district-wide policies?

**IN YOUR CLASSROOM**

Are day-to-day management and instructional procedures guided by clearly defined district and school policies?

## Clear School Mission

*All schools have a curriculum and all schools test: What we are talking about is the emphasis, the thrust, the direction or use of what is already there.*

Dale Mann

The primary mission of schools is learning.

The curriculum is a picture of what students are expected to learn and how teachers can help them learn. Curricular integrity implies a match among what teachers should teach, what teachers do teach, resources that can help students learn better and can help teachers teach better and what students actually do learn.

The elements of the curriculum should be in agreement at the district, school and classroom levels.

District

- There is a written document which defines goals which students are expected to accomplish.
- Teachers, students and parents are given opportunities to contribute to the development of goals.
- Objectives are selected to represent a wide range of concepts and skills, are specified and sequenced by grade level, are articulated between grade levels and among school levels (e.g., elementary, middle and high schools), and are teachable within an established time frame.
- Textbooks and materials are selected to reflect appropriately the content of the curriculum.
- Achievement tests are selected to reflect appropriately the possible content of the curriculum.

- Standards of acceptable performance are added to district goals and objectives.

School

- Staff, students and parents are informed about what, how much and how well students are expected to learn.
- Principals have the responsibility to implement, monitor and evaluate the curriculum.
- All teachers have sufficient textbooks and materials which match the content of the curriculum.
- Books and materials in the library media center are selected to reflect appropriately the content of the curriculum.
- The content of school-wide achievement tests matches the content of the curriculum.
- Promotion and retention decisions are based upon district-wide and school-wide standards for acceptable performance on the objectives.

Classroom

- The responsibility for teaching to the objectives is assigned to teachers within subject areas.
- Objectives are organized or grouped into units and lessons, and form the basis for yearly, weekly and daily instructional planning.
- The selection of textbook topics and the use of other materials is based upon the content of the objectives.
- The content and format of classroom assessment procedures are based upon the content of the objectives.
- Reporting of student progress is based upon school-wide standards for acceptable performance on the objectives.

The process of developing district-wide goals and objectives and refining and/or developing curriculum in eleven state mandated areas has been occurring in all Connecticut school districts over the past three years.

**IN YOUR DISTRICT**

Are goals, objectives, textbooks and assessment procedures in alignment with each other?

**IN YOUR SCHOOL**

Do standards for acceptable performance, based upon school-wide objectives, exist in each subject?

**IN YOUR CLASSROOM**

Do school-wide objectives form the basis for instruction and assessment?

# Teaching Basic Skills

*The teacher who has a "knack with kids" but no science of instruction can remain a promising amateur who never developed the rigor needed to become a true professional.*

**Madeline Hunter**

Teaching involves decision making and the quality of the decisions teachers make before, during and after instruction affects what, how much and how well students learn. Effective basic skills instruction has been the subject for much of the research of the past decade. A general pattern of effective instruction emerged across a number of studies.

Although most of the research in teaching basic skills was conducted in elementary classrooms, other researchers have found that the same instructional strategies also were successful in secondary classrooms. Learning improved when teachers of reading, language arts and mathematics used the following techniques:

**Get students ready for the day's lesson.**

Review key concepts.
Check homework.
Reteach or provide additional practice on those items which students had difficulty understanding.

**Present new content through demonstration.**

Proceed in small steps at a brisk pace.
Focus on one point at a time.
Avoid digressions.
Provide redundant and detailed explanations.
Give many, varied and specific examples.
Be certain that one point is mastered before moving to the next.

**Provide guided student practice.**

Ask a large number of questions of all students to monitor understanding.

Include higher level questions which require application, analysis and synthesis.

Strive for a high frequency of correct responses (80%) on initial practice.

**Do not** call only on volunteers to hear their usually correct answers and assume that **all** students have achieved understanding.

**Respond to student answers and correct student errors.**

Inform students about the accuracy of their answers.

Correct all errors.

**Assign independent practice to allow students to achieve mastery of the skills.**

Monitor seatwork by circulating among students, answering questions and checking for understanding.

Assign homework to extend independent practice time.

Strive for 95% correct or higher on independent practice before moving to the next skill.

**Continually diagnose student learning styles while teaching and adopt techniques as necessary.**

Try another approach if a student has not mastered the skills. Some students learn best by seeing, others by listening and still others by doing.

Give students practice with all modes of expressing what they learn. Some students do best with writing, others with talking and still others with pictures or diagrams.

Provide flexibility in learning arrangements. Some students learn best in large groups and others in smaller groupings. Some students do well working with friends while others are distracted by friends.

Pay attention to the varieties of learning effort required by students. Perseverance, motivation and distractibility all relate to level of student effort.

Finally, the research findings on the teaching of basic skills have direct implications for remediation. Remediation is an instructional event; it is not a grouping procedure. Too often remediation is described as "low track" or "pull-out" without attention to describing the instructional prac-

tices which are most likely to correct deficiencies and improve learning. Homogeneous grouping for remediation can be productive only if it is accompanied by instructional practices which have the greatest potential to correct deficiencies and to increase learning.

What teachers do makes the difference in what, how much and how well students learn.

**IN YOUR DISTRICT**

Do teachers have the necessary support, encouragement, reward and opportunities to learn about and practice successful instructional strategies in teaching basic skills?

**IN YOUR SCHOOL**

Do teachers regularly use classroom approaches which contribute to increased student learning?

**IN YOUR CLASSROOM**

Are all students mastering reading, writing, language arts and arithmetic?

## Varied Learning Styles

*In the classroom, I believe that children will learn best if their limits are stretched, if their emotions are encouraged and if they are helped to understand themselves and their own special way of thinking and seeing the world.*

**Jerre Levy**

Research in learning styles helps educators to understand the complexity of learning and to appreciate the role teachers can play to improve learning. Learning styles have cognitive, affective and physiological aspects.

**Cognitive aspects** refer to the ways students translate information (decode), convert information (encode), organize, store and recall information. Cognitive styles represent ends on a continuum. Some students learn better with concrete examples; others prefer abstractions. Some are convergent thinkers; others are divergent. Some prefer details and facts; others prefer generalizations.

**Affective aspects** refer to the ways students feel. Affective aspects of learning styles include students' emotional and personality characteristics such as motivation, persistence, responsibility and sociability. Affective aspects also represent ends on a continuum. Some learners are reserved while others are outgoing. Some are cautious; others are risk-taking. Some are practical thinkers and others are more theoretical.

**Physiological aspects** of learning styles include attention to the senses and to the environment. Some students are more visual; others are more aural. Some are distracted by noises while others can block out distractions. Some prefer working in groups and others prefer working alone.

The challenge to teaching is to help students learn more easily through, rather than in spite of, their many individual differences. An equally important challenge is to help students expand their range of learning strategies. The greater variety of learning styles students can acquire the greater variety of skills and concepts they will be able to master.

Teachers can help students increase their range of learning styles in several ways.

- The use of a variety of questioning techniques stimulates various levels of thinking. Teachers should ask questions which require students to recall facts, comprehend ideas, apply principles, analyze, draw implications and make judgments.

- The use of multisensory strategies trains and stimulates all of the senses. Students should have the opportunity to learn by listening, by viewing, and by touching and manipulating objects.

- The use of a variety of review and reflection strategies provides options for students. Students should have the opportunity to learn by reading, writing summaries, writing creatively (stories, plays, poetry), reciting, engaging in drama activities and drawing pictures or diagrams.

- The use of flexible grouping and seating arrangements expands student learning styles. Students should have the opportunity to learn in large groups, small groups and independently.

When teachers provide a range of learning activities using a variety of teaching styles, all students have the opportunity to learn by their preferred learning styles as well as to practice other learning styles.

**IN YOUR DISTRICT**

Do teachers have the training, knowledge and support needed to vary their teaching styles in response to differences in student learning styles?

**IN YOUR SCHOOL**

Do teachers regularly use a variety of teaching styles in response to differences in student learning styles?

**IN YOUR CLASSROOM**

Do all students have the opportunity to learn using a range of learning styles?

## High Expectations

> *It is essential that staff believe that schools are an important factor in making a difference in the lives of children. Although social and environmental factors are important, their negative aspects can be overcome by what takes place within a schoolhouse.*
>
> Gerald N. Tirozzi

One of the most vigorous themes in the school improvement research findings is the importance of expectations. Those expectations that teachers and administrators hold about what, how much and how well students can achieve take on added meaning when it becomes evident that opportunities for student learning are dictated largely by expectations for student learning.

Without the expectation, the opportunity is not likely to be provided; without the opportunity, high expectations are not likely to be fulfilled. For example, currently there is not the opportunity in most schools for most students to study a foreign language. Concurrently, there is not the expectation among many educators that most students can successfully study a foreign language, even though the evidence from other countries shows the contrary.

Opportunities and expectations lead directly to matters of equity. The word "all" is the significant variable because the literature is replete with findings of significant differences in achievement for students based upon differences in race, ethnicity, social class and gender.

There are practices which convey high expectations and provide opportunities to learn for all students. For example:

- Become proficient in the verbal and nonverbal behaviors teachers can exhibit to raise student expectations in the classroom. These behaviors include questioning patterns, expressions of warmth, acceptance, encouragement and support, and the use of constructive criticism.

- Strive to avoid verbal and nonverbal behaviors teachers can exhibit which lower student expectations in the classroom. These behaviors include inappropriate questioning patterns, negative comments about students, harshness and punitiveness, reinforcement for incorrect answers or inappropriate be-

haviors and different treatment for the same behavior for different students.

- Specify subject area standards which all students must meet in order to compete successfully in the next highest elementary grade or secondary course.

- Group students heterogeneously for most instruction. Smaller temporary and flexible homogeneous groupings may be appropriate for a lesser part of the day for particular skill instruction, remediation and enrichment.

- Align the content of objectives, tests, textbooks, and materials for all students. Within the same grade or course, subgroups of students may not have the same opportunities to learn objectives, meet standards, and score well on standardized tests where textbooks, materials and teacher emphases differ.

- Expect all students to carry a substantial course load.

- Provide the opportunity for all students to take academically rigorous courses. Faster achieving students should be expected to take advanced mathematics, science and language courses regardless of their career aspirations. Slower achieving students should be expected to take courses such as algebra, computer science, foreign language and biological and physical sciences before they graduate.

- Assure that opportunities and expectations for outcomes are the same for all students. Assemble and analyze data for the following outcomes from the student population as a whole by race, social class, ethnicity and gender:

  — Standardized achievement test scores, including norm-referenced tests, criterion-referenced tests, statewide proficiency tests, college admissions tests, and any other systematically administered achievement measures

  — Patterns of grading or the percentages of A's, B's, C's and F's by subject areas

  — Patterns of rewards and punishments such as honor roll and disciplinary referrals and suspensions

  — Patterns of course selection: Which students take which courses?

— Patterns of acceptance to higher education, vocational training and employment: Who gets to go where?

— Patterns of school dropouts: Who are most likely not to graduate and where do they go?

The interdependence of opportunities and expectations is most consequential for subgroups of students who historically have achieved less than white, middle-class male students.

**IN YOUR DISTRICT**

Is the distribution of resources equitable and designed to insure that all students in all schools have maximum opportunities to learn?

Do district-wide reports illustrate high outcomes for all students when data on student outcomes is analyzed by race, ethnicity, social class and gender?

**IN YOUR SCHOOL**

Do day-to-day practices provide opportunities based upon high expectations for all students?

Do outcomes for students differ when analyzed by race, ethnicity, gender and social class?

**IN YOUR CLASSROOM**

Are particular subgroups of students treated differently with regard to grading, grouping, standards, rewards and punishments?

## The Principal As Instructional Leader

*There are some bad schools with good principals, but there are no good schools with bad principals.*

Ronald Edmonds

The importance of instructional leadership to school effectiveness has been a recurring theme in recent educational research findings. Accompanying the emphasis on instruction and leadership has been the significance of the principal as the chief provider of instructional leadership.

Instruction is the heart and soul of schooling. Instruction incorporates what teachers are teaching, how teachers are teaching, and what, how much and how well students are learning.

Although most principals consider instructional leadership to be one of their most important responsibilities, many studies show that the amount of time spent on instructional activities is far less than time spent on managerial tasks. Consequently, in schools where there is not adequate instructional leadership, there is lack of consensus about what teachers should be teaching, there is lack of attention paid to how teachers are teaching and there is ambivalence about what, how much and how well students are learning.

The instructional leader:

- Frames the academic mission of the school. Academic mission is a clearly defined set of goals and objectives to be accomplished by staff and students. Parents and teachers work with the leader to develop the mission statement.

- Communicates the academic mission of the school. The leader is the communication link between the superintendent and district office on one end and the staff, parents and students on the other end. The leader ensures that all are conversant with the school's mission through the use of formal, written statements and through presentations at meetings.

- Coordinates curriculum and instruction. The leader assures curriculum congruence between and within grade levels. There

are goals and objectives to be accomplished for each course. Textbooks and materials complement the objectives. Tests are aligned closely with both the content taught and the textbooks used.

- Assigns students to instructional groupings using procedures which do not track or label students. Grouping students is one of the most consequential as well as controversial dimensions of instructional leadership. The negative effects of homogeneous grouping and tracking can be avoided by assigning students heterogeneously for initial instruction and practice on common objectives. Temporary assignments to homogeneous groups can be used for remedial instruction or for acceleration or enrichment.

- Supervises instruction to assure that the school's mission is being translated into classroom practice. The leader monitors closely the instructional program through direct observations of teachers and students, review of lesson plans, analyses of student progress and verbal or written reports from teachers and parents.

- Evaluates teacher performance in the classroom. The evaluation dimension of instructional leadership often is the most visible role and may be the most demanding one. The evaluation criteria should include attention to:

  — classroom management strategies

  — academic learning time

  — curriculum and objectives in accordance with the school's academic mission

  — instructional techniques which provide opportunities for both guided and independent practice, insure a high rate of success, and allow all students the opportunity to respond to questions

  — classroom grouping procedures

  — homework assigned in reasonable amounts with clear instructions and graded in a timely manner

  — assessment procedures used to aid students in identifying and correcting errors and evaluating progress

  — appropriate use of materials

  — evidence of yearly, monthly and weekly planning.

- Monitors student progress from several different sources, which include teacher-made tests, student report cards, criterion-

referenced tests of objectives taught, norm-referenced standardized achievement tests and parent comments.

Teacher-made tests should be consistent with course objectives and should not differ decidedly across classrooms or teachers. Grading procedures should be consistent across teachers and based upon fair and defensible standards related to the mastery of course objectives. School-wide criterion-referenced tests are best for measuring the degree of attainment of school-wide course objectives. Standardized tests are essential for comparison with state and national norms.

Furthermore, the instructional leader promotes a serious attitude toward test taking as an affirmation of student accomplishments.

- Designs, promotes and actively participates in staff development. Staff development exerts influence to the extent that it (a) sustains a focus that is recognizably tied to the experiences of the staff, (b) specifically supports the translation of ideas into practice and (c) promotes focused interaction among teachers and administrators. Ideally, staff development is an occasion in which teachers and principals, working together, describe, analyze, interpret, plan for or teach each other about some aspect of school practice. Finally, it is the instructional leader who supports, maintains and evaluates the effects of the staff development program.

Instructional leadership can make the difference between putting the research into practice and merely being familiar with it.

**IN YOUR DISTRICT**

Do principals have the necessary training, support, encouragement, rewards and opportunities to become excellent instructional leaders?

**IN YOUR SCHOOL**

Is the principal engaged in instructional leadership activities almost all of the time?

**IN YOUR CLASSROOM**

Do instructional supervision and evaluation practices contribute to improved teaching and learning?

## Teacher Evaluation

> *When an educational critic appraises in a way which is designed to provide constructive feedback to the teacher, evaluation begins to perform its most important function: providing the conditions that lead to the improvement of the educational process.*
>
> Elliot W. Eisner

An effective teacher evaluation system based upon contemporary research on teaching and learning has tremendous potential to enhance the quality of instruction. The framework for building an effective teacher evaluation system discussed in this section is taken from the work of Thomas McGreal (1983).

- A district-wide commitment to the concept of improving classroom instruction is the first step in designing an effective teacher evaluation system.

- The system of evaluation should complement the desired purpose for the evaluation. If the primary purpose for evaluation is the improvement of instruction, the system of policies, procedures, resources and instrumentation must be based on this purpose.

One of the most widespread models for the improvement of instructional practices is the clinical supervision model. While there are differing labels and steps in the clinical supervision cycle, there is general agreement that the model contains five stages: (1) pre-observation conference; (2) observation of teaching; (3) analysis and strategy; (4) post-observation conference and (5) post-conference analysis.

A second model, a more recent approach, is the artistic model. The artistic model requires: (1) attention to the expressive character of teaching; (2) attention to the unique contributions of the teacher; (3) attention to the process of classroom life; and (4) observations over extended periods of time by multiple observers (critics).

- Separating administrative from supervisory behavior is an essential part of effective evaluation. The approach allows supervisors and teachers to focus on instructional matters and to rely on techniques which promote a more collegial supervisory relationship.

- Goal setting is a major activity of effective evaluation. The essence of goal setting is that competent teachers plan, implement those plans and evaluate the results of those plans.

- A focus on teaching is essential. The selected teaching focus should have a strong empirical basis, a close approximation to standard practice, and perspectives and skills that are potentially generalizable across subject areas and grade levels.

- The quality of observations and the ways supervisors collect and share data with teachers are major factors. The most appropriate role for a supervisor in visiting classrooms is to be a collector of descriptive data on a predetermined aspect of the teacher's performance.

- While supervisor observation has been the dominant method of collecting formal data about teaching, other sources should be considered. Options include parent comments, peer observation, student performance data, self-evaluation, and student evaluation.

- A training program for both teachers and administrators is essential to address the specific understandings and skills that will make the evaluation system functional.

Evaluation for instructional improvement requires commitment, explicit processes and procedures, collegial teacher/supervisor relationships, goal setting, a focus on teaching, highly developed supervisory skills and comprehensive training.

**IN YOUR DISTRICT**

Do policies and procedures for teacher evaluation lead to improved instruction? Is comprehensive training provided to implement the evaluation system?

**IN YOUR SCHOOL**

Does the supervisor/teacher relationship enhance the quality of instruction?

**IN YOUR CLASSROOM**

Do teacher evaluation practices lead to improved student learning?

## Assessing Student Progress

*You don't improve systems by solving problems in isolation. You can improve systems by monitoring indicators and tailoring practices.*

William W. Cooley

School improvement efforts can be as pointed as improving time-on-task or as comprehensive as Connecticut's School Effectiveness Project. School improvement programs can be district-wide or school-based only. Differing school-based programs may occur within any one district. Regardless of the focus or the setting, school improvement programs have greater chances for success when assessment data lead to goals and objectives, when implementation practices are tailored to the goals and objectives and when evaluation results guide future planning and practices.

The monitoring and tailoring approach to assessing student progress has implications for district, school and classroom measurement.

District

- Measurement is coordinated. District-level planning reflects district-wide selection of tests, standardized procedures for administration, and specific routines for scoring, securing, reporting and analyzing results.
- Tests are selected or developed which reflect most closely the goals and objectives of the curriculum and are aligned most closely with textbooks and other instructional materials.
- Norm-referenced standardized tests are regularly administered to compare student progress with national norms.
- Tailor-made criterion-referenced tests are administered annually to assess the degree of student mastery of course objectives.
- Statewide proficiency tests are administered annually to assess basic skills proficiency.

- District-wide and school scores are analyzed and reported to the public. The analysis includes information about the present status of achievement by grade and by school, and a comparison of present status with national norms, state norms, and district-wide standards.

- District-wide longitudinal analyses are conducted on norm-referenced and criterion-referenced tests to compare student achievement over time.

- All test data are analyzed by race, gender, social class and ethnicity to ensure that **all** students are learning.

- Achievement results form the bases for district-level goals and objectives and provide one measure of program evaluation.

- Individual student data are reported to parents promptly, systematically and with as much clarity as possible.

School

- Measurement is coordinated. School-level planning flows from district-level planning and procedures.

- Students are prepared for taking tests by specific instruction in test-taking skills and practice with test formats.

- Retention and promotion policies are based, in part, upon the results from tailor-made criterion-referenced test results.

- All staff participate in analyzing results, making inferences about program success and targeting areas for improvement.

- Results are charted to display longitudinal patterns and to portray comparisons among subgroups of students to insure that **all** students are learning.

- Staff members are prepared and readily available to consult with parents about individual student's scores.

Classroom

- Classroom assessment is frequent and objective based.

- Teachers use the results to find out if instructional methods are working, which particular skills have been mastered and which particular skills need reteaching.

- Results are reported to students promptly and teachers help students understand and correct errors.

- Teachers know and use test development techniques to design valid and reliable assessment procedures.

- Assessment takes varied forms: paper and pencil, oral reports and observations of performance.

- Students gain practice with varieties of item types: multiple choice, short answer, true and false, matching, and essay.

- Questioning techniques systematically include all levels of the cognitive domain: knowledge, comprehension, application, analysis, synthesis and evaluation.

- Homework is checked and graded promptly.

- Report card grades are based upon well defined criteria, many and frequent assessment points, and relate to mastery of the objectives.

- Criteria for grading are standardized across classrooms.

Coordinated assessment of student progress tells staff, students and parents how well students are learning as well as which particular skills need improving.

**IN YOUR DISTRICT**

Do student achievement scores for all students compare favorably with national and state norms and local objectives?

**IN YOUR SCHOOL**

Do student achievement scores show continuing improvement for all students?

**IN YOUR CLASSROOM**

Are students achieving mastery of course objectives?

## Money Buys Resources

*We believe that dollars can make a difference in the quality of education provided to children. We will be a lot closer to knowing how to provide effective education to all children when we have learned what dollars can do and the factors that influence the relationships between expenditure levels and student outcomes.*

**Richard Murnane**

There continues to be extended debate about the efficacy of the research on school productivity. But the notion that expenditures make no contribution to increased achievement is just as dangerously simplistic as the notion that dollars spent automatically will correlate positively and significantly with increased achievement.

It is the case in Connecticut and nationally that wealthier school districts tend, in fact, to spend substantially more per pupil than the poorer ones do. These high spending districts can show ample evidence of the additional resources they provide. The school boards in these districts believe these additional resources fully justify, through their benefits to students, the additional monies required to make more resources available, and they are supported in this belief by their communities. Numerous courts, including the Connecticut Supreme Court, also faced with the conflicting research evidence in this very complex area, have concluded that there is a sufficiently direct relation between resources and results as to convince them that resource disparities are related to disparities in educational opportunities.

Money is important because without money it is not possible to acquire either material or human resources.

### Material Resources

The mere availability of books and materials does not contribute to student achievement but in research studies where their use has been measured, the results have been positive. The use of these tangibles is, first and foremost, to support educational goals and objectives.

Textbooks and materials should reflect appropriately the content of the curriculum, be up-to-date, in good condition and in sufficient numbers for all students.

Books and materials in the library media center should be of sufficient number and variety to supplement the content of the curriculum. The disparities in educational opportunities are blatant between students who have ready access to attractive library media centers with up-to-date and plentiful materials and those who have access to only hand-me-down books and out-of-date encyclopedias housed in out-of-the-way basement rooms.

**Human Resources**

Teachers and administrators are the most powerful educational resources money can buy. Teachers and administrators control the process through which resources are used. Researchers using the input-output model to study teacher characteristics during the 1960s and early 1970s found it difficult to show the significant effects of teaching. These earlier research findings were equivocable and often contradictory when teacher characteristics such as experience, amount of education, verbal ability, gender, race and marital status were studied. When the research emphasis shifted from the characteristics of the teacher to the characteristics of the process of teaching, the relationships between teaching and improved learning became far less equivocable and highly significant.

Dollars can buy more effective human resources in a variety of ways.

- Staff development provisions are needed for teachers, administrators and support persons to be trained and retrained in effective classroom management and effective instructional techniques and evaluation for improved instruction.

- Time and auxiliary staff are needed for teachers and principals to develop course objectives and objective-based assessment instruments and to analyze and evaluate school results.

- Additional staff may be needed to reduce class size for some students for at least part of the day. The accumulation of research on class size indicates that the academically needy and younger students can benefit from smaller classes (under 15) if the teacher designs instructional approaches to take advantage of the smaller class.

- Additional staff are needed for pupil personnel services, library services and certain specialized instructional areas.

- Increased salaries for teachers and administrators may help to encourage the most effective educators to remain in the profession, entice the most promising students to enter the profession and convey more accurately the value of the profession in the job market.

Resources are critical and crucial elements in putting the research into practice for school improvement.

**IN YOUR DISTRICT**

Does the budget support research-based school improvement practices?

**IN YOUR SCHOOL**

Do resources contribute to improved teaching and learning? Are resources adequate to initiate research-based school improvement practices?

**IN YOUR CLASSROOM**

Are there items or conditions which money can buy which would improve student achievement?

## Building Collegiality

> *A school may be described as a series of autonomous classrooms held together by a common parking lot or a well organized, goal directed, and well articulated social system.*
>
> Lawrence Lezotte

The best of intentions, the highest of standards, and the most conclusive research data will not become classroom practice if teachers do not have the opportunity to learn about and experiment with new knowledge and skills. One day, isolated workshops may serve as a morale booster (or something less) but research shows they are not effective as long-term staff development efforts. What research does say is that staff development appears to have the greatest prospects for influence where there is a prevailing norm of collegiality. As it is used in the research, "collegiality" is not just "working together" as an end in itself. Collegiality implies a sense of partnership among school staff, including the principal, in the entire process of change from the initial identification of issues and objectives to the evaluation and modification of activities.

There are several features of more effective staff development programs which are consistent with research findings.

- The school, in contrast to the district or individual teacher, is the fulcrum for change. Staff development is school-based and includes administrators, teachers and instructional support staff. The school-based, all-staff notion does not mean that district goals or individual staff needs are ignored. School-based programs accompanied by a high degree of collegiality have the potential to satisfy district, school and individual goals.

- Staff development is an interactive process. Teachers and administrators work together at every stage. Collaborative planning, in particular, is crucial.

- Staff development, in part, is situation-specific and focused. In the skill-training method, teachers and administrators

— are trained to discriminate among the various instructional skills to be learned;

— observe others who demonstrate the skills;

— practice the skills with coaching, and

— have their performances evaluated.

- Staff development, also, is an ongoing and continuing process which includes monitoring and maintenance. Monitoring requires continued observation of teacher and administrator performance to ensure that behavior changes, as a result of staff training, are maintained at an appropriate level. Maintenance involves procedures for retraining teachers and administrators if performance falls below appropriate levels.

- Achieving, within schools, an internal capacity for self-renewal is the ultimate aim of staff development. Helping staff help themselves to identify issues, set priorities, train or be trained, identify changes in behavior and evaluate the results are ingredients of effective staff development.

Districts and schools must make the time and take the time to institute effective professional development programs for all staff.

**IN YOUR DISTRICT**

Are the necessary time and resources available for effective staff development?

**IN YOUR SCHOOL**

Are all staff participating in focused, continuing self-renewal activities?

**IN YOUR CLASSROOM**

Does staff development contribute to improved learning and teaching?

## Citizen Advocacy

> *The presence of parents in the school sends a message to the community that the school cares about the children and the community. It sends a message to the children that the parents expect them to perform well socially and academically.*
>
> James P. Comer

Where citizens are advocates for a high level of learning and excellent teaching, they provide the support, encouragement and nourishment schools need to succeed.

This section departs from previous sections in two ways: (1) the recommendations for improvement are not within the direct control of administrators and teachers and (2) many of the recommendations are not based as much on research findings as they are on the political and social context in which schools exist.

Parents and citizens can do many things for school improvement.

- Assume the responsibility for student attendance. Absent students lose valuable time for learning.
- Monitor student homework assignments. Homework expands academic learning time and strengthens classroom learning.
- Reinforce the school's code of conduct. Student misbehavior detracts from academic learning time.
- Volunteer time, knowledge and talents to enhance the curriculum as a visiting performer, speaker or tutor.
- Require that students have the necessary textbooks and materials to achieve course objectives.
- Encourage all students to take academically rigorous courses and expect them to succeed.
- Become knowledgeable about student progress on standardized and other school-wide tests. Actively seek the school's help with test interpretation when necessary.

- Vote for candidates for the board of education who are knowledgeable about and who support research-based school improvement efforts.
- Support the fact that educational reform needs financial assistance when budget issues arise.
- Encourage boards of education to make policy decisions which are based upon research findings for school improvement.
- Ask questions and expect answers about the status of your school in terms of research-based factors which contribute to improved learning, teaching and leadership, including
  - — effective use of time for learning
  - — policies which define academic learning environments
  - — presence of a clear school mission
  - — recognition of variety in student learning styles
  - — instructional practices in the teaching of basic skills
  - — expectations which dictate opportunities to learn
  - — instructional leadership effectiveness of the principal
  - — effectiveness of teacher evaluation for instructional improvement
  - — variety and suitability of student assessment procedures
  - — quality and intensity of staff development
  - — availability of sufficient material and human resources

**PARENTS AND CITIZENS**

*You have the right to demand for your children the best our schools and colleges can provide. Your vigilance and your refusal to be satisfied with less than the best are the imperative first step.*

**The National Commission on Excellence in Education**

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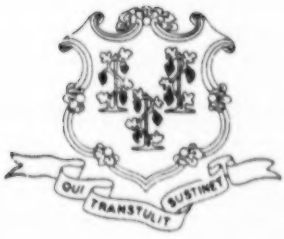
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